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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,651	10/06/2003	Jenny E. Freeman	8118.004.USDV	7811

7590 10/31/2006

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EXAMINER	
RAMIREZ, JOHN FERNANDO	
ART UNIT	**PAPER NUMBER**
3737	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/678,651	**Applicant(s)** FREEMAN ET AL.	
	Examiner John F. Ramirez	**Art Unit** 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement..

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-12 in the reply filed on August 7, 2006 is acknowledged. The examiner of record has recognized that claims 13-30 were canceled in a preliminary amendment filed and dated October 6, 2003.

Claim Objections

Claim 11 is objected to because of the following informalities: the word "thennal" has been interpreted as "thermal". The examiner believes this is a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Eismann (US 5,760,899).

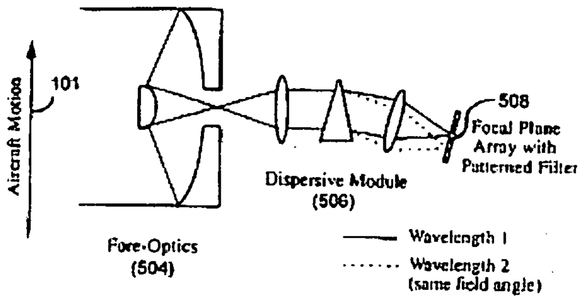

Figure - 5

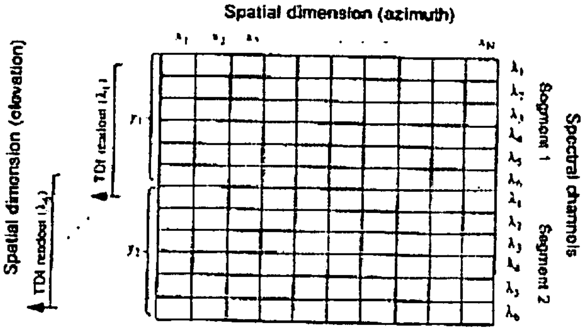

Figure - 6

The Eismann patent teaches an imaging apparatus including: means for integration of spatial, spectral and temporal features, and optionally other physiologic data or calibration data, in a spectral and temporal multi modal imaging system for the evaluation of biological systems and stimuli; means for fusing a thermal image or other imaging modalities and hyperspectral data cube for assessment of biological processes, wherein the integrated features are two or more of visible or infrared hyperspectral images, visible or infrared brightfield images, thermal images, fluorescence images, Raman images, or combinations thereof (see abstract), further including: sensors for image fusion and alignment (104); alignment mechanisms for aligning multiple optical paths (col. 7, lines 13-32), an image registration device to maintain image centering (column 4, lines 54-67; column 5, lines 1-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eismann in view of Mooradiam et al. (5,782,770) and in further view of Robb et al. (US 5,568,384).

The Eismann patent teaches all the limitations of the claimed subject matter except for mentioning specifically the steps of a specific UV, visible or infrared light source, and means for collecting two or more of visible or infrared hyperspectral images, visible or infrared brightfield images, thermal images, fluorescence images, Raman images, or combinations thereof, wherein the light source can be controlled to limit the illumination to only a single or group of spectral bands, wherein the multimodal imaging systems includes a collection optic that is an endoscope, including inputs for signals from instruments monitoring a biological function to allow the synchronization of the collection of images to the biological process, on-board CCD chip filter and processing electronics to perform data operations prior to transmission of signal to increase processing speed; and inputs for a physiological monitoring system, normal color video for displaying data and for camera alignment and aiming; and a storage system for recording and logging of real-time or near real-time output, means for stabilizing and integrating imagery and data sets in a temporally and geometrically dynamic environment in such a way that the integrated data sets can be interpreted, further including a reference frame device that is visible in the images across multiple spectra as well as in thermal images for multi-modal fusion and a tracked imaging apparatus including a means of creating a unified spatial mosaic of individual hyperspectral image cubes taken at various locations and times.

However, the steps of a specific UV, visible or infrared light source, and means for collecting two or more of visible or infrared hyperspectral images, visible or infrared brightfield images, thermal images, fluorescence images, Raman images, or combinations thereof, wherein the light source can be controlled to limit the illumination to only a single or group of spectral bands, wherein the multimodal imaging systems includes a collection optic that is an endoscope, including inputs for signals from instruments monitoring a biological function to allow the synchronization of the collection of images to the biological process, on-board CCD chip filter and processing electronics to perform data operations prior to transmission of signal to increase processing speed; and inputs for a physiological monitoring system, normal color video for displaying data and for camera alignment and aiming; and a storage system for recording and logging of real-time or near real-time output, means for stabilizing and integrating imagery and data sets in a temporally and geometrically dynamic environment in such a way that the integrated data sets can be interpreted, further including a reference frame device that is visible in the images across multiple spectra as well as in thermal images for multi-modal fusion and a tracked imaging apparatus including a means of creating a unified spatial mosaic of individual hyperspectral image cubes taken at various locations and times are considered conventional in the art as evidenced by the teachings of Mooradian et al. (US 5,782,770) and Robb et al. (US 5,568,384).

The Mooradian et al. patent teaches the steps of a specific UV, visible or infrared light source, and means for collecting two or more of visible or infrared hyperspectral images, visible or infrared brightfield images, thermal images, fluorescence images, Raman images, or combinations thereof, wherein the light source can be controlled to limit the illumination to only a single or group of spectral bands, wherein the multimodal imaging systems includes a collection optic that is an endoscope, including inputs for signals from instruments monitoring a biological function to allow the synchronization of the collection of images to the biological process, on-board CCD chip filter and processing electronics to perform data operations prior to transmission of signal to increase processing speed; and inputs for a physiological monitoring system, means for stabilizing and integrating imagery and data sets in a temporally and geometrically dynamic environment in such a way that the integrated data sets can be interpreted, and normal color video for displaying data and for camera alignment and aiming; and a storage system for recording and logging of real-time or near real-time output. Moreover, the Robb et al., patent teaches the step of including a reference frame device that is visible in the images across multiple spectra as well as in thermal images for multi-modal fusion and a tracked imaging apparatus including a means of creating a unified spatial mosaic of individual hyperspectral image cubes taken at various locations and times.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR
10/23/06

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TECHNOLOGY CENTER 3700